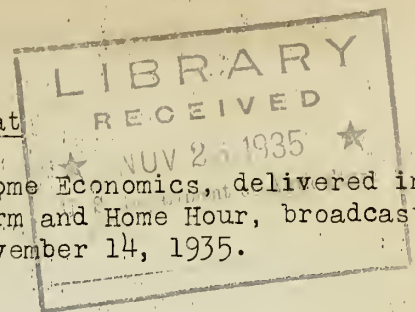


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HOUSEHOLD CALENDAR

The new science of roasting meat



A radio talk by Miss Futh Van Deman, Bureau of Home Economics, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 48 associate NBC stations, Thursday, November 14, 1935.

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MR. GAPEN: Miss Van Deman, I was looking through the pile of letters and cards that came after your talk last Thursday. The one you know about low-cost meats. asking for M.P. 216.

MISS VAN DEMAN: Yes, I know. Those letters are keeping my secretary humping.

MR. GAPEN: One lady said your talk wasn't half long enough.

MISS VAN DEMAN: Yes, I got that message and I don't wonder. I realized myself that I wasn't answering a lot of the questions that I know are bothering people. In the last 10 years, home economics people have found out some things that revolutionize our old ideas of cooking meat. So there's a lot of discussion about the best method to use on roasts, and some misunderstanding.

MR. GAPEN: Yes, I've heard women arguing about whether a cover on a roast helps to keep the juice in the meat. What's the answer to that?

MISS VAN DEMAN: The answer to that is no. A cover on a roast does not keep the juice in meat. Quite the reverse. When you put a cover over meat in a roasting pan, or a kettle, or a skillet, you hold in the moisture that's evaporating from the meat as it cooks. This steam circulating inside the covered utensil and condensing into drops of moisture and running down over the surface of the meat, makes the meat dry. An oven that's so poorly ventilated the moisture can not escape, has practically the same effect as a covered pan.

MR. GAPEN: Then you don't ever recommend cooking a piece of meat in a covered pan?

MISS VAN DEMAN: Oh yes we do, if it's one of the tough cuts. Or if it's very lean meat, without a good covering of fat. But a tender piece of meat with a good layer of fat over the outside - a rib roast of beef or a leg of lamb, or a ham, for instance - will cook perfectly in an open pan. And it will keep its juice if the oven temperature is moderate for most of the time.

Of course I'm speaking of meat that is cooked just to a turn. Anybody who insists on having meat cooked to the extremely well-done stage, cooked to death I'd call it, can't expect to have it juicy.

Now this question of whether to sear or not to sear --

MR. GAPEN: That's another one I've heard debated. I remember my mother used to say that searing a roast sealed the outside so the juice couldn't escape. Is that another old idea we have to throw overboard?

(over)

MISS VAN DEMAN: Yes, it seems to be. That's the "pellicle theory."

MR. GAPEN: The pellicle theory?

MISS VAN DEMAN: Yes, pellicle, skin you might say. It's the theory that the intense heat of searing coagulates the proteins into a skin over the surface of a piece of meat and holds the juice. (Pellicle, you know, comes from the same Latin root as our word pelt, the skin of an animal.) But now scientific investigation shows that this pellicle theory doesn't hold. The so-called skin formed by the sear doesn't stay put as the roast cooks and shrinks during the hours it stays in the oven. In fact, far from sealing juices in the meat, searing may force some of the juice out of the meat tissues. However, the records show that the extra loss is mostly fat in the bottom of the pan. But searing does brown the surface and develop that good rich flavor that we all think of even when we say "roast meat." In fact, some of the scientific cooks think that the sear puts a bloom on meat you can't get any other way. Others prefer to use a constant moderate temperature and let the roast brown gradually as it cooks. This takes longer, but there's less shrinkage of the meat.

Of course, the kind of a stove you're using also makes a difference. If you're using a coal range or some other oven in which you can't raise and lower the heat quickly, then it's better to roast your meat at moderate temperature from start to finish. For this constant temperature roasting, 300 to 350 degrees gives good results.

But, and here's the most important point of all. Keep your meat roasting at moderate temperature most of the time. Then the juices stay in, unless as I said a moment ago, the roast is carried to that extremely well-done, really over-cooked, stage.

MR. GAPEN: One more question, and then I'm through. What's this about getting your oven temperature just right, 300 or 350, or whatever it is, and then cooking your meat just so many minutes to the pound? Seems to me that's a neat way to have the roast ready on the stroke of the dinner hour.

MISS VAN DEMAN: Very neat if it would only work. But it doesn't allow for the natural differences in the meat itself. The way the fat's distributed over the outside of a roast, the proportion of muscle to bone, even the shape of a piece of meat, have an effect on the speed of cooking. So just blindly following a schedule of 25 or 30 minutes to the pound may or may not give you perfectly cooked meat.

The only absolutely sure method is to put a meat thermometer into the roast and cook until the mercury column shows the center of the roast has reached a certain temperature. That way you can get a beef roast rare, or medium, or well done, and be absolutely sure that it will be cooked to your taste before you slice it. Lucy Alexander and the other people doing this research on meats have cooked thousands of roasts to exactly the same stage by using these thermometers stuck right into the center of the roasts.

MR. GAPEN: Is that practical in the home kitchen?

MISS VAN DEMAN: It certainly is practical and it's economical

MR. GAPEN: Miss Van Deman, I take it your leaflets tell all about the meat thermometer and oven temperatures.

MISS VAN DEMAN: Yes, we have all that in print, for anyone who wishes to drop me a note.

MR. GAPEN: You'll probably have another deluge of letters. Anyway, thank you for turning the light of science on this every day problem of roasting meat.

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